

LAHIVE

&

COCKFIELD

L L P

COUNSELLORS AT LAW

28 STATE STREET

BOSTON, MASSACHUSETTS 02109-1784

TELEPHONE (617) 227-7400

FAX (617) 742-4214

lc@lahive.com

3-3-03

JOHN A. LAHIVE, JR. (1928-1997)
THOMAS V. SMURZYNSKI
RALPH A. LOREN
GIULIO A. DeCONTI, JR.
ANN LAMPORT HAMMITTE
ELIZABETH A. HANLEY
AMY BAKER MANDRAGOURAS
ANTHONY A. LAURENTANO
KEVIN J. CANNING
JANE E. REMILLARD
DeANN FORAN SMITH
PETER C. LAURO
DEBRA J. MILASINCIC, Ph.D.
DAVID J. RIKKERS
DAVID R. BURNS
JOHN S. CURRAN
SEAN D. DETWEILER
MEGAN E. WILLIAMS, Ph.D.

#12 1645

LISA M. DIROCCO
HATHAWAY P. RUSSELL *
MARIA LACCOTRIPE ZACHARAKIS, Ph.D.
VINCENT P. LOCCISANO
MERIDETH C. ARNOLD
DANIELLE L. HERRITT
EUIHOON LEE **

SENIOR COUNSEL
JAMES E. COCKFIELD

OF COUNSEL
JEREMIAH LYNCH
WILLIAM A. SCOFIELD, JR.
SIBLEY P. REPPERT
JEANNE M. DIGIORGIO
CYNTHIA L. KANIK, Ph.D.

PATENT AGENTS
THEODORE R. WEST
SHAYNE Y. HUFF, Ph.D.
CYNTHIA M. SOROOS
PETER W. DINI, Ph.D.
JONATHAN M. SPARKS, Ph.D.

TECHNICAL SPECIALISTS
CATHERINE M. BISHOP
JACOB G. WEINTRAUB
CRISTIN E. HOWLEY, Ph.D.
JILL ANN MELLO, Ph.D.

* Admitted in TX only

** Admitted in CT only

RECEIVED

MAR 05 2003

TECH CENTER 1600/2900

February 27, 2003

Commissioner for Patents
Washington, D.C. 20231

Re: U.S. Patent Application Serial No.: 09/819,104
For: *NOVEL NUCLEAR RECEPTOR COREPRESSOR MOLECULES AND USES THEREFOR*
Inventors: Chen, J. Don
Filed: March 27, 2001
Our Ref. No.: UMG-030

Dear Sir:

I enclose herewith for filing in the above-identified application the following:

1. Information Disclosure Statement;
2. PTO Form 1449;
3. Copies of references cited in PTO Form 1449 (46); and
4. A Return Postcard.

No additional costs are believed to be due in connection with the filing of this Information Disclosure Statement. However, please charge any necessary fees in connection with the enclosed statement to our Deposit Order Account No. 12-0080. For this purpose, a duplicate of this sheet is attached.

"Express Mail" mailing label number EL 931 680 912 US

Date of Deposit February 27, 2003

I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to the Commissioner for Patents, Box Patent Application, Washington, D.C. 20231

Signature

Ilidio P. Cardoso

Please Print Name of Person Signing

LAHIVE & COCKFIELD, LLP
Attorneys at Law

By

Peter C. Lauro, Esq.

Reg. No. 32,360

28 State Street

Boston, MA 02109

Telephone: 617-227-7400

Facsimile: 617-742-4214



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

RECEIVED

MAR 05 2003

TECH CENTER 1600/2900

In re the application of: Chen, J. Don

Group Art Unit: 1645

Serial No.: 09/819,104

Examiner: Not Yet Assigned

Filed: March 27, 2001

For: *NOVEL NUCLEAR RECEPTOR
COREPRESSOR MOLECULES AND USES
THEREFOR*

Attorney Docket No.: UMG-030

Commissioner for Patents
Washington, D.C. 20231

"Express Mail" Mailing Label Number EL 931 680 912 US

Date of Deposit February 27, 2003

I hereby certify that this transmittal letter and the papers referred to as being enclosed therein are being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to the Commissioner for Patents, Box Patent Application, Washington, DC 20231.


Signature

Ilidio P. Cardoso

Please Print Name of Person Signing

INFORMATION DISCLOSURE STATEMENT

Dear Sir:

Applicant and Applicant's Attorney are aware of the following publications and information, listed on the attached PTO Form 1449, and in accordance with 37 CFR §1.97 hereby submit these publications for the Examiner's consideration. A copy of each cited publication is enclosed.

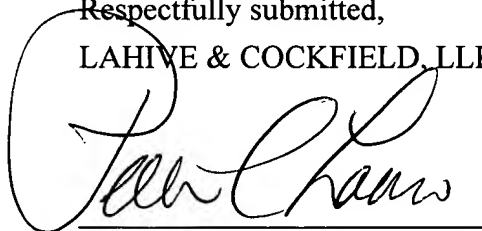
This statement is not to be interpreted as a representation that the cited publications are material, that an exhaustive search has been conducted, or that no other relevant information exists. Nor shall the citation of any publication herein be construed *per se* as a representation that such publication is prior art. Moreover,

Applicant understands that the Examiner will make an independent evaluation of the cited publications.

Under 37 CFR § 1.97(b)(3), no additional costs are believed to be due in connection with the filing of this disclosure. If, however, a first Office Action on the merits issues in this application bearing a mailing date prior to the date of this Information Disclosure Statement, please charge the appropriate fee as required under 37 CFR §1.17(p) to our Deposit Order Account No. 12-0080.

Respectfully submitted,

LAHIVE & COCKFIELD, LLP

A handwritten signature in black ink, appearing to read "Peter C. Lauo", is written over a horizontal line.

Peter C. Lauo, Esq.

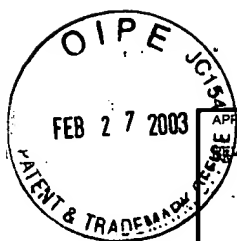
Registration No. 46,931

Attorney for Applicant

28 State Street
Boston, MA 02109
(617) 227-7400

Date: February 27, 2003

PCL/DJM/PWD/tmf
Enclosures



RECEIVED

Sheet 1 of 3

APPLICANT FACSIMILE OF FORM PTO-1449 REV. 7-80	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY DOCKET NO UMG-030	SERIAL NO. 09/619104
LIST OF PUBLICATIONS CITED BY APPLICANT (Use several sheets if necessary)		APPLICANT Chen, J. Don	
		FILING DATE March 27, 2001	GROUP 1645

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

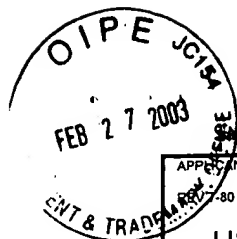
FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO

OTHERS (including Author, Title, Date, Pertinent Pages, Etc.)

	A1	GenBank Acc. No. AF125672 for <i>Homo sapiens</i> silencing mediator of retinoic acid and thyroid hormone receptor extended isoform (SMRTE) mRNA, complete cds
	A2	GenBank Acc. No. AF125671 for <i>Mus musculus</i> silencing mediator of retinoic acid and thyroid hormone receptor extended isoform (Smrte) mRNA, complete cds
	A3	Aasland <i>et al.</i> "The SANT domain: a putative DNA-binding domain in the SWI-SNF and ADA complexes, the transcriptional co-repressor N-CoR and TFIIIB." <i>Trends Biochem. Sci.</i> 1996 Mar;21(3):87-8
	A4	Ait-Si-Ali <i>et al.</i> "Histone acetyltransferase activity of CBP is controlled by cycle-dependent kinases and oncoprotein E1A." <i>Nature</i> 1998 Nov 12;396(6707):184-6
	A5	Alland <i>et al.</i> "Role for N-CoR and histone deacetylase in Sin3-mediated transcriptional repression." <i>Nature</i> 1997 May 1;387(6628):49-55
	A6	Baniahmad <i>et al.</i> "A transferable silencing domain is present in the thyroid hormone receptor, in the v-erbA oncogene product and in the retinoic acid receptor." <i>EMBO J.</i> 1992 Mar;11(3):1015-23
	A7	Bourguet, <i>et al.</i> "Crystal structure of the ligand-binding domain of the human nuclear receptor RXR- α ." <i>Nature.</i> 1995 Jun 1;375(6530):377-82
	A8	Chen <i>et al.</i> "A transcriptional co-repressor that interacts with nuclear hormone receptors." <i>Nature</i> 1995 Oct 5;377(6548):454-7
	A9	Chen <i>et al.</i> "SMRT isoforms mediate repression and anti-repression of nuclear receptor heterodimers." <i>Proc. Natl. Acad. Sci. U.S.A.</i> 1996 Jul 23;93(15):7567-71
	A10	Chen <i>et al.</i> "Coactivation and corepression in transcriptional regulation by steroid/nuclear hormone receptors." <i>Crit. Rev. Eukaryot. Gene Expr.</i> 1998;8(2):169-90
	A11	Crawford <i>et al.</i> "Nuclear receptor DAX-1 recruits nuclear receptor corepressor N-CoR to steroidogenic factor 1." <i>Mol. Cell Biol.</i> 1998 May;18(5):2949-56
	A12	Davies <i>et al.</i> "Are neuronal intranuclear inclusions the common neuropathology of triplet-repeat disorders with polyglutamine-repeat expansions?" <i>Lancet.</i> 1998 Jan 10;351(9096):131-3
	A13	DePinho <i>et al.</i> "Transcriptional repression. The cancer-chromatin connection." <i>Nature.</i> 1998 Feb 5;391(6667):533, 535-6
	A14	Fischbeck <i>et al.</i> "Kennedy disease." <i>J. Inherit. Metab. Dis.</i> 1997 Jun;20(2):152-8
	A15	Frampton <i>et al.</i> "Proposed structure for the DNA-binding domain of the Myb oncoprotein based on model building and mutational analysis." <i>Protein Eng.</i> 1991 Dec;4(8):891-901
Examiner		Date Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



APPLICANT FACSIMILE OF FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY DOCKET NO UMG-030	SERIAL NO. 09/819,104
LIST OF PUBLICATIONS CITED BY APPLICANT (Use several sheets if necessary)		APPLICANT Chen, J. Don	
		FILING DATE March 27, 2001	GROUP 1645

OTHERS (including Author, Title, Date, Pertinent Pages, Etc.)

B1	Gelmetti <i>et al.</i> "Aberrant recruitment of the nuclear receptor corepressor-histone deacetylase complex by the acute myeloid leukemia fusion partner ETO." <i>Mol. Cell Biol.</i> 1998;18(12):7185-91
B2	Grignani <i>et al.</i> "Fusion proteins of the retinoic acid receptor- α recruit histone deacetylase in promyelocytic leukaemia." <i>Nature</i> . 1998 Feb 19;391(6669):815-8
B3	Hanna-Rose <i>et al.</i> "Active repression mechanisms of eukaryotic transcription repressors." <i>Trends Genet.</i> 1996 Jun;12(6):229-34
B4	He <i>et al.</i> "Distinct interactions of PML-RAR α and PLZF-RAR α with co-repressors determine differential responses to RA in APL." <i>Nat. Genet.</i> 1998 Feb;18(2):126-35
B5	Heinzel <i>et al.</i> "A complex containing N-CoR, mSin3 and histone deacetylase mediates transcriptional repression." <i>Nature</i> . 1997 May 1;387(6628):43-8
B6	Hong <i>et al.</i> "SMRT corepressor interacts with PLZF and with the PML-retinoic acid receptor α (RAR α) and PLZF-RAR α oncoproteins associated with acute promyelocytic leukemia." <i>Proc. Natl. Acad. Sci. U.S.A.</i> 1997 Aug 19;94(17):9028-33
B7	Hörlein <i>et al.</i> "Ligand-independent repression by the thyroid hormone receptor mediated by a nuclear receptor co-repressor." <i>Nature</i> . 1995 Oct 5;377(6548):397-404
B8	Johnson <i>et al.</i> "The price of repression." <i>Cell</i> . 1995 Jun 2;81(5):655-8
B9	Kao <i>et al.</i> "A histone deacetylase corepressor complex regulates the Notch signal transduction pathway." <i>Genes Dev.</i> 1998 Aug 1;12(15):2269-77
B10	Laherty <i>et al.</i> "SAP30, a component of the mSin3 corepressor complex involved in N-CoR-mediated repression by specific transcription factors." <i>Mol. Cell</i> . 1998 Jul;2(1):33-42
B11	Li <i>et al.</i> "Characterization of receptor interaction and transcriptional repression by the corepressor SMRT." <i>Mol. Endocrinol.</i> 1997 Dec;11(13):2025-37
B12	Lin <i>et al.</i> "Role of the histone deacetylase complex in acute promyelocytic leukaemia." <i>Nature</i> . 1998 Feb 19;391(6669):811-4
B13	Lutterbach <i>et al.</i> "ETO, a target of t(8;21) in acute leukemia, interacts with the N-CoR and mSin3 corepressors." <i>Mol. Cell Biol.</i> 1998 Dec;18(12):7176-84
B14	Muscatelli <i>et al.</i> "Mutations in the DAX-1 gene give rise to both X-linked adrenal hypoplasia congenita and hypogonadotropic hypogonadism." <i>Nature</i> . 1994 Dec 15;372(6507):672-6
B15	Nagy <i>et al.</i> "Nuclear receptor repression mediated by a complex containing SMRT, mSin3A, and histone deacetylase." <i>Cell</i> . 1997 May 2;89(3):373-80
B16	Ogata <i>et al.</i> "Solution structure of a specific DNA complex of the Myb DNA-binding domain with cooperative recognition helices." <i>Cell</i> . 1994 Nov 18;79(4):639-48
B17	Ordentlich <i>et al.</i> "Unique forms of human and mouse nuclear receptor corepressor SMRT." <i>Proc. Natl. Acad. Sci. U.S.A.</i> 1999 Mar 16;96(6):2639-44
B18	Park <i>et al.</i> "SMRTE, a silencing mediator for retinoid and thyroid hormone receptors-extended isoform that is more related to the nuclear receptor corepressor." <i>Proc. Natl. Acad. Sci. U.S.A.</i> 1999 Mar 30;96(7):3519-24
B19	Rastinejad <i>et al.</i> "Structural determinants of nuclear receptor assembly on DNA direct repeats." <i>Nature</i> . 1995 May 18;375(6528):203-11
B20	Reddy <i>et al.</i> "The complex pathology of trinucleotide repeats." <i>Curr. Opin. Cell Biol.</i> 1997 Jun;9(3):364-72

Examiner

Date Considered

*EXAMINER:

Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



APPLICANT FACSIMILE OF FORM PTO-1449

U.S. DEPARTMENT OF
COMMERCE
PATENT AND TRADEMARK OFFICE

ATTY DOCKET NO

SERIAL NO.

UMG-030

09/819,104

LIST OF PUBLICATIONS CITED BY APPLICANT
(Use several sheets if necessary)

APPLICANT

Chen, J. Don

FILING DATE

March 27, 2001

GROUP

1645

Sheet 3

RECEIVED

MAR 05 2003

TECH CENTER 1600/2900

OTHERS (including Author, Title, Date, Pertinent Pages, Etc.)

C1	Renaud <i>et al.</i> "Crystal structure of the RAR- γ ligand-binding domain bound to all- <i>trans</i> retinoic acid." <i>Nature</i> . 1995 Dec 14;378(6558):681-9
C2	Sande <i>et al.</i> "Identification of TRACs (T_3 receptor-associating cofactors), a family of cofactors that associate with, and modulate the activity of, nuclear hormone receptors." <i>Mol. Endocrinol.</i> 1996 Jul;10(7):813-25
C3	Seol <i>et al.</i> "Isolation of proteins that interact specifically with the retinoid X receptor: two novel orphan receptors." <i>Mol. Endocrinol.</i> 1995 Jan;9(1):72-85
C4	Shibata <i>et al.</i> "Gene silencing by chicken ovalbumin upstream promoter-transcription factor I (COUP-TFI) is mediated by transcriptional corepressors, nuclear receptor-corepressor (N-CoR) and silencing mediator for retinoic acid receptor and thyroid hormone receptor (SMRT)." <i>Mol. Endocrinol.</i> 1997 Jun;11(6):714-24
C5	Wagner <i>et al.</i> "The nuclear corepressors NCoR and SMRT are key regulators of both ligand- and 8-bromo-cyclic AMP-dependent transcriptional activity of the human progesterone receptor." <i>Mol. Cell Biol.</i> 1998 Mar;18(3):1369-78
C6	Westendorf <i>et al.</i> "The t(8;21) fusion product, AML-1-ETO, associates with C/EBP- α , inhibits C/EBP- α -dependent transcription, and blocks granulocytic differentiation." <i>Mol. Cell Biol.</i> 1998 Jan;18(1):322-33
C7	Wong <i>et al.</i> "Components of the SMRT corepressor complex exhibit distinctive interactions with the POZ domain oncoproteins PLZF, PLZF-RAR α , and BCL-6." <i>J. Biol. Chem.</i> 1998 Oct 16;273(42):27695-702
C8	Xu <i>et al.</i> "Signal-specific co-activator domain requirements for Pit-1 activation." <i>Nature</i> . 1998 Sep 17;395(6699):301-6
C9	Zamir <i>et al.</i> "A nuclear hormone receptor corepressor mediates transcriptional silencing by receptors with distinct repression domains." <i>Mol. Cell Biol.</i> 1996 Oct;16(10):5458-65
C10	Zhang <i>et al.</i> "Proteasomal regulation of nuclear receptor corepressor-mediated repression." <i>Genes Dev.</i> 1998 Jun 15;12(12):1775-80
C11	Zhang <i>et al.</i> "A nuclear receptor corepressor modulates transcriptional activity of antagonist-occupied steroid hormone receptor." <i>Mol. Endocrinol.</i> 1998 Apr;12(4):513-24
Examiner	Date Considered
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	